REMARKS

Claims 8-13 are pending in the case. The Examiner's reconsideration of the rejections is respectfully requested in view of the remarks.

Claim 8 has been rejected under 35 U.S.C. 102(b) as being anticipated by Chuo (USPN 3,930,825). The Examiner stated essentially that Chui teaches all the limitations of Claim 8.

Claim 8 claims, "a first laser beam generating means that generates a first laser beam for breaking molecular bonds of the non-metallic substrate material so as to heat a cutting path formed on the non-metallic substrate and to form a scribe line having a crack to a desired depth; and a second laser beam generating means that generates a second laser beam for propagating the crack along a scanning path of the first laser beam in a depth direction of the substrate, wherein the apparatus cuts the non-metallic substrate without a cooling device."

Chui teaches a method of producing an article of glass by cutting using a pair of focused laser beams which cut patterns in the glass having a common starting and ending point (see Abstract). Chui does not teach "a second laser beam generating means that generates a second laser beam for propagating the crack along a scanning path of the first laser beam in a depth direction of the substrate" as claimed in Claim 8. The pair of laser beams travel in separate paths to cut a pattern in the glass by cutting it out of a sheet of glass, for example, cutting two opposite 180 degree arcs to create a circle pattern (for example, see Figure 3 illustrating the two different paths of a pair of lasers). Each laser of the pair of lasers of Chui takes a separate path. Further, it is clear that either of the pair of lasers of Chui is sufficient to cut through the glass substrate – as this is an object of the Chui invention – therefore, even where the first and second lasers have a common point along their separate paths (e.g., the starting point), the first laser cuts completely through the glass and does not form a "scribe line having a crack" as claimed in Claim 8.

Therefore, Chui fails to teach "a second laser beam generating means that generates a second laser beam for propagating the crack along a scanning path of the first laser beam in a depth direction of the substrate" as claimed in Claim 8. The Examiner's reconsideration of the rejection is respectfully requested.

Claims 9-13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chui. The Examiner stated essentially that Chui teaches or suggests all the limitations of Claims 9-13.

Claims 9-13 depend from Claim 8. The dependent claims are believed to be allowable for at least the reasons given for Claim 8. The Examiner's reconsideration of the rejection is respectfully requested.

Claims 8-13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Xuan (USPN 6,744,009). The Examiner stated essentially that Xuan teaches or suggests all the limitations of Claims 8-13.

Claim 8 claims, *inter alia*, "wherein the apparatus cuts the non-metallic substrate without a cooling device."

Xuan teaches a system using a combined heating/cooling technique to scribe a substrate (see col. 3, lines 5-12 and col. 10, lines 55-59). Xuan does not teach or suggest cutting a non-metallic substrate without a cooling device, essentially as claimed in Claim 8. It is clear that Xuan's system uses a coolant source in scribing the substrate (see col. 8, lines 47-51). Nowhere does Xuan teach or suggest a system that may form a scribing line without such a coolant source. Therefore, Xuan fails to teach or suggest all the limitations of Claim 8.

In addition, Xuan is inapplicable as 102(e) prior art in view of Korean Application 2001-27677, filed May 21, 2001, from which the present application claims priority (a certified English translation of the foreign application will be provided in due course). The 102(e) date of

the Xuan reference is April 2, 2002. The Effective Filing Date of the present application is the priority date of May 21, 2001, which antedates the 102(e) date of Xuan. Therefore, Xuan is inapplicable as 102(e) prior art. Thus, Xuan's teachings cannot support a prima facie case of obviousness.

The Examiner's reconsideration of the rejection is respectfully requested.

Claims 8, 9, 11, and 13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admissions. The Examiner stated essentially that the applicant's admissions teach or suggest all the limitations of Claims 8, 9, 11, and 13.

Claim 8 claims "a first laser beam generating means that generates a first laser beam for breaking molecular bonds of the non-metallic substrate material so as to heat a cutting path formed on the non-metallic substrate and to form a scribe line having a crack to a desired depth."

Applicant's admissions teach "a cooling fluid beam 14 having a markedly lower temperature than the heating temperature of the glass motherboard 10 is applied onto the rapidly heated cutting path 12. Accordingly, while the glass motherboard 10 is rapidly cooled, a crack is generated on a surface of the motherboard 10 to a desired depth to generate a scribe line 15" (see page 5, lines 1-18).

Applicant's admissions do not teach or suggest "a first laser beam generating means that generates a first laser beam for breaking molecular bonds of the non-metallic substrate material so as to heat a cutting path formed on the non-metallic substrate and to form a scribe line having a crack to a desired depth" as claimed in Claim 8. Applicant's admissions teach a cooling fluid generates a crack on a surface of the motherboard (see page 5, lines 7-8). Nowhere does Applicant's admissions teach or suggest a laser for generating a scribe line having a crack, essentially as claimed in Claim 8, much less cutting a non-metallic substrate without a cooling

device. Therefore, Applicant's admissions fail to teach or suggest all the limitations of Claim 8. Reconsideration of the rejection is respectfully requested.

Claim 10 has been rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admissions in combination with Kitajima et al. (USPN 6,320,158). The Examiner stated essentially that the combined teachings of the applicant's admissions and Kitajima teach or suggest all the limitations of Claim 10.

Claim 10 depends from Claim 8. Claim 10 is believed to be allowable for at least the reasons given for Claim 8. Reconsideration of the rejection is respectfully requested.

Claim 12 has been rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admissions in combination with Boyle et al. (USPN 6,841,482). The Examiner stated essentially that the combined teachings of the applicant's admissions and Boyle teach or suggest all the limitations of Claim 12.

Claim 12 depends from Claim 8. Claim 12 is believed to be allowable for at least the reasons given for Claim 8.

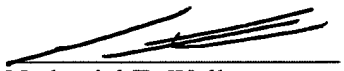
Further, Boyle is inapplicable as 102(e) prior art in view of the Korean Application 2001-27677, filed May 21, 2001, from which the present application claims priority (as stated above, a certified English translation of the foreign application will be provided in due course). The 102(e) date of the Boyle reference is October 26, 2001. The Effective Filing Date of the present application is the priority date of May 21, 2001, which antedates the 102(e) date of Boyle. Therefore, Boyle is inapplicable as 102(e) prior art. Thus, Boyle's teachings cannot support a prima facie case of obviousness. The Examiner's reconsideration of the rejection is respectfully requested.

Claims 8, 12, and 13 have been rejected on the grounds of nonstatutory obvious-type double patenting as being unpatentable over Claims 11 and 13 of Nam et al. (USPN 6,541,730) in view of Stevens (USPN 5,622,540).

A terminal disclaimer, disclaiming a terminal part of the statutory term of any patent granted on the instant application that would extend beyond the term of Nam, will be forwarded in due course. The terminal disclaimer will be submitted following the filing of a power of attorney document naming certain attorneys of the undersigned's office as attorneys of record. Upon submission of the terminal disclaimer, the Examiner's reconsideration of the rejection is respectfully requested.

For the forgoing reasons, the present application, including Claims 8-13, is believed to be in condition for allowance. The Examiner's early and favorable action is respectfully urged.

Respectfully submitted,

By: 

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